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Crook County,
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Upper Beaver Creek Vegetation Management Project

Record of Decision

and

Final Environmental Impact Statement

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Decision and Reasons for the Decision

Background

This Record of Decision documents my decision and rationale for selecting a course of action to be implemented for the Upper Beaver Creek Vegetation Management Project.

The Upper Beaver Creek Project Area is located 70 air miles southeast of Prineville and 12 miles northeast of Paulina, Oregon. The project area covers approximately 37,000 acres. The planning area is located within: Township 14 South, Range 25 East, Sections 26-36; Township 15 South, Range 24 East, Sections 1, 11-14, 23-27, 35; Township 15 South, Range 25 East, Sections 1-35; Township 15 South, Range 26 East, Sections 18, 19, 30-32; Township 16 South, Range 26 East, Sections 5-8, 17-19, 30.

In 2004, the Ochoco National Forest conducted an ecosystem analysis of the Upper Beaver Creek watershed. The Upper Beaver Creek Watershed Analysis included an extensive look at forest fuels and vegetation conditions, the relationships between those conditions and changes in fire hazard, insect and disease dynamics, wildlife habitat, and riparian health (see Chapter 1, Local Assessments). Vegetation patterns and occurrence within the analysis area are different now than what existed historically. Changes to the health, structure, composition, distribution, and function of forest stands have altered the natural processes that maintain a viable ecosystem. This has affected vegetative resiliency, wildlife habitat diversity and amount, water quality, visual quality, fuel loadings, and potential fire behavior.

Among other things, the watershed analysis determined that there have been major increases in stand densities within the watershed. Fire exclusion has allowed understory trees to establish and develop over the past 100 years, resulting in overstocked stands. Ladder fuels, which include understory trees that can carry fire to the overstory, have increased the risk of stand-replacing wildfire. Stands dominated by medium and large trees are deficient across the watershed and open park-like stands of ponderosa pine are absent. There is a surplus of ponderosa pine acres dominated by pole size trees (5 to 9 inch diameter) and small diameter trees (9 to 21 inch). The number of insect outbreaks and pathogen incidents has increased since historic times. Grand fir and Douglas-fir have been able to expand into stands where they were

not historically, which has resulted in the expansion of the range of insect and pathogen host trees, which can lead to large-scale forest disturbance events.

Additionally, many Riparian Habitat Conservation Areas (RHCAs) in the project area currently have conifer encroachment. High stocking of conifers in RHCAs can lead to replacement of aspen and other deciduous broadleaf vegetation, shrubs and ground vegetation. Conifers don't provide the same habitat characteristics as these other types of vegetation in riparian systems; loss of riparian vegetation to conifers can have negative effects on water quality in affected streams by reducing shade and decreasing bank stability.

Based on the findings from the watershed analysis and comparisons to the goals and objectives contained in the Forest Plan for the Ochoco National Forest, five needs were identified:

- There is a need to increase large diameter trees, and late and old structure stands;
- There is a need to introduce hardwood plant species and large woody debris within Riparian Habitat Conservation Areas;
- There is a need to reduce the distribution of western juniper;
- There is a need to reduce the amount of fuels to achieve and/or maintain low intensity fire conditions; and
- There is a need to provide wood products for meeting public needs and contributing to the health of local and regional economies.

The final environmental impact statement (EIS) documents the analysis of three alternatives to meet the stated needs.

Decision and Rationale

I have reviewed the Upper Beaver Creek Vegetation Management Project Final EIS and information contained in the project file, including but not limited to the Forest Plan; the Upper Beaver Creek Watershed Analysis; public and other agency comments; and applicable laws and regulations. I have determined there is adequate information to make a reasoned choice among alternatives. I am fully aware of the possible adverse environmental effects that cannot be avoided, such as the adverse effects on soils. I am also fully aware of the irretrievable commitment of resources, such as constructing roads. I have determined that these risks will be outweighed by the likely benefits such as moving forested stands toward the historic range of variability; reducing mortality of large diameter trees; and increasing the area within the low-intensity fire regime. Implementing this decision will not cause unacceptable cumulative impacts to any resource.

In making my decision, I considered how each alternative meets the stated purpose and need and complies with applicable laws, regulations, and policies. I have also considered the public and agency comments submitted in response to the 45-day comment period.

Based upon my review of the project file and all three alternatives, I have decided to implement Alternative 2 (the Proposed Action and Preferred Alternative). Alternative 2 also includes the Design Criteria and Mitigations as well as any needed monitoring listed in the Final EIS on pages 20-30 and Appendix 2 (unit by unit soils mitigations).

Table 1 summarizes the activities in Alternative 2.

Table 1. Alternative 2.

Treatment	Acres/Volume
Fuels & Vegetation Treatments (Silvicultural)	
Commercial Thinning	2,674 acres
Precommercial Thinning	6,727 acres
Juniper Thin and Underburn	2,299 acres
Hardwood Treatments	61 acres
Total	11,761 acres
Fuels & Vegetation Treatments (Fuels reduction)	
Prescribed Fire	4,233 acres
Activity Fuels Treatment	8,714 acres
Grapple piling of activity created fuels	2,045 acres
Wolf Ridge Nature Fuels Treatment	1,046 acres
Fuel Break (Summit Trail)	309 acres
Total	16,347 acres
Timber Volume Removed	
Sawtimber (MMBF)	4.0
Sawtimber (CCF)	8,000
Transportation System (miles)	
Open System Roads	50.33 miles
* Closed System Roads to be opened	6.16 miles
*Temporary Roads (decommissioned roads to be open)	3.61 miles
*Temporary Roads (new for access)	2.78 miles
Closed / Temporary Road Total	**12.55 miles**
*Closed system roads, temporary roads, and new temporary roads will be opened during harvest activities and re-closed after these activities are complete.	

When compared to Alternative 3, Alternative 2 better meets the purpose and need as described below. The following section describes the factors I considered and the reasons for selecting Alternative 2.

Vegetation

The Final EIS describes a need to move the seral (species composition) and structural (size) conditions of forest stands towards their historic ranges of variability (HRV) by (1) maintaining and increasing the amount of late and old structured stands, (2) increasing the resistance of forest

stands to insects and disease, and (3) maintaining and increasing broadleaf and shrub communities. I carefully considered this need statement in deciding what activities to undertake.

HRV

I believe that moving towards a balance of seral/structural stages as described by HRV will move toward healthy, sustainable forest stands over time. For these reasons, I have concluded that it is important to undertake commercial harvest, noncommercial thinning, and prescribed fire activities that will move forest stands toward the HRV. These treatments are designed to increase the dominance of fire-tolerant species such as ponderosa pine and western larch and increase the dominance of large size trees over time. Alternatives 2 and 3 will move forest stands closer toward the HRV than the no action alternative.

Alternative 2 does the best job of moving forested conditions toward HRV because it reduces the highest proportion of dense stands which allows increased growth rates and faster development of large size trees. Alternative 2 also does the best job of increasing the proportion of ponderosa pine and western larch, while reducing the amount of shade-tolerant tree species such as fir. Alternative 2 does a better job of moving toward HRV than Alternative 3. Alternative 1 is the no action alternative and the deviations from the HRV would be expected to increase over time.

Late and Old Structure (LOS) Stands

There currently are an estimated 1,375 acres of LOS within the project area. The majority (1,039 acres) of the LOS is in a multi-strata condition. All Plant Association Groups (PAGs) are below the historic range for single strata LOS. Across all PAGs, the total amount of multi-strata LOS is within the combined historic ranges, while single strata LOS is below.

Due to the current multi-strata, dense conditions within LOS stands, large trees within them are at risk of mortality from insects and disease. Density reduction treatments have shown increased diameter growth rates and improved vigor of large residual trees thus helping to maintain them over time. For this reason Alternatives 2 and 3 propose non harvest treatment within mapped LOS stands to help maintain the existing large tree structure, enhance the development of additional large trees, and lessen the risk of loss. Implementation of Alternatives 2 and 3 would not require a Forest Plan Amendment to implement as they do not include commercial harvest within mapped LOS stands.

Alternatives 2 and 3 include non-harvest treatments (precommercial thinning, slash piling, and prescribed fire) within LOS stands. Alternative 1 does not propose any treatment in LOS stands. Precommercial thinning would help maintain large trees by reducing understory canopy layers, thus reducing competition stress in the older, larger overstory and removing ladder fuels which would lessen the risk of crown fire. Prescribed fire would reduce existing and activity fuels and reduce risk from wildfire. These treatments reduce the risk of losing LOS stands to wildfire or insects/disease.

Large trees in treated LOS are expected to persist longer than in untreated LOS. Due to the number of large trees and existing stand densities, treated LOS stands would still retain basal

areas above the recommended stocking which means that the effects of treatment will not last as long or produce as much growth as stands with lower densities.

Under Alternative 2, treatments would focus on the removal of understory trees to reduce stand density, to maintain existing large trees, and to enhance the development of additional large trees. No live trees 21 inches dbh or larger, except those trees considered hazardous to the logging/hauling operation, would be cut. Primarily fire-intolerant, late-seral species would be targeted for removal although these species would not be eliminated.

Reduction in stand density would reduce competitive stress. This would result in more large trees being maintained over time, as well as encourage the development of additional large trees. Treatment would also reduce the risk of large tree mortality due to disturbance agents. Single-strata conditions are more likely to be sustained over time than multi-strata conditions since the trees are more vigorous and less susceptible to insects, disease, and wildfire. The abundance of early-seral species would be maintained and enhanced in the long term.

The overall amount of LOS would not change immediately due to treatment, although about 170 acres of multi-strata LOS would be converted to single strata LOS. The overall amount of multi-strata LOS would not be reduced below historic levels; however, the amount of multi-strata LOS within the Douglas-fir and Grand fir PAGs would continue to be below their historic ranges. By year 20 the amount of multi-strata LOS in all PAGs increases to be within or above the historic ranges. This alternative results in the greatest amount of single strata LOS in both the short and longer term, although the overall amount of single strata does not reach the historic range.

Alternative 3 treatments would be similar to and have effects similar to Alternative 2 but fewer acres would be treated. The overall amount or distribution of LOS would not change immediately due to treatment, although about 140 acres of multi-strata LOS would be converted to single strata LOS. The overall amount of multi-strata LOS would not be reduced below historic levels; however, the amount of multi-strata LOS within the Douglas-fir and Grand fir PAGs would continue to be below their historic ranges. By year 20 the amount of multi-strata LOS in all PAGs increases to be within or above the historic ranges. This alternative results in a lesser amount of single strata LOS in both the short and longer term than Alternative 2.

Alternative 2 does the best job of maintaining the existing large tree structure and enhancing the development of additional large trees because Alternative 2 treats more acres of multi-strata LOS. Alternative 2 would also target more acres of fire-intolerant, late-seral species to remove more ladder fuels which would lessen the risk of crown fire. Over the long term more large trees would be maintained over time by reducing the risk of large tree mortality from insects, disease, and wildfire.

Insects and Diseases

If the majority of the trees in a given area have densities that result in stagnated (or overstocked) stands, they become more vulnerable to insects and disease. This is important in the Upper Beaver Creek project area given the existing deficit of large trees, overstocked stand conditions, and the time and growth needed to develop large trees. Within the project area, an estimated

5,400 acres are at high risk of mortality from insects and disease. In 20 years the amount of high risk area is projected to increase by an additional 2,200 acres. Treating stands that are at high risk would increase the growth and vigor of the remaining trees and reduce their vulnerability to insects and diseases.

Alternative 2 treats the largest amount of high risk conditions reducing the high-risk stages by about 1,000 acres, and would bring the amount of area into the range at which it historically occurred. Alternative 3 would treat fewer acres, and would have less risk reduction in the short term and long-term, reducing the high risk stages by about 800 acres.

Table 2. Acres in a Condition of High-Risk to Insects and Disease by Alternative

	0 years	20 years	30 years	50 years
Alt 1	**5,426**	**8,641**	**9,807**	**11,544**
Alt 2	**4,454**	**7,616**	**8,802**	**10,620**
Alt 3	**4,630**	**7,763**	**8,934**	**10,727**

Broadleaf and Shrub Communities

The Upper Beaver Creek project area contains 3,844 acres in Riparian Habitat Conservation Areas (RHCAs). Most of the RHCAs within the project area have become overstocked with small diameter conifers. The overstocked densities of conifers in the RHCAs prevent hardwoods such as alder, willow, aspen, and other shrubs from expanding due to competition for sunlight, nutrients and water. This competition for resources makes it difficult for hardwoods to reestablish. Without the hardwood component, stream banks lack strong root masses that can stabilize banks, make channels narrower, reduce water velocity during high flow events as well as provide quality habitat for aquatic species such as trout and amphibians.

The amount and type of vegetation in riparian areas play an important role in maintaining and improving both water quality and fish habitat. The roots of hardwood vegetation help to stabilize streambanks and the stems act as a roughness element that reduces the velocity and erosive energy of over bank flow during high water events. Conifers do not provide the same bank stabilizing function as these brushy, shrubby species. Most broadleaf, hardwood species within Upper Beaver are shade-intolerant. Throughout the project area, conifers are competing with and shading out the broadleaf vegetation, and these shrubby species are losing vigor and are not able to re-colonize exposed stream banks.

Under Alternative 2 activities proposed within RHCAs include 220 acres of commercial thinning and 1,037 acres of non-commercial and fuels treatments. These activities are designed to maintain or improve existing shade conditions by thinning conifers to promote deciduous trees and shrubs, to promote development of large-size trees by reducing competition, and to enhance long-term recruitment of large wood within riparian areas. Class I and II streams have a 300 foot area on each side of the stream in which riparian resources receive primary emphasis. Commercial thinning with ground based equipment is limited to existing roads, trails and landings and would be allowed to within 100 feet of stream channels. Commercial thinning with no ground based equipment would be allowed between 100 and 50 feet from the stream channel. Hand thinning would be implemented between 50 and 12 feet from the stream channel. Class III

and IV streams would have 150 foot area in which riparian resources receive primary emphasis. Thinning would take place using no ground-based equipment, and thinning objective would vary by stream class. Prescribed fire would occur on approximately 1,400 acres designated as RHCA.

Alternative 3 treatments were specifically designed to address issues relating to activities proposed in Riparian Habitat Conservation Areas that could increase sediment and cause a decline in water quality and/or decrease soil productivity in RHCAs. Activities proposed in RHCAs include 14 acres of commercial thinning and 990 acres of non-commercial thinning (including juniper thinning) and fuels treatments. Class I and II streams would have a 300 foot area on each side of the stream in which riparian resources receive primary emphasis. Class III streams would have 150 foot areas and Class IV streams would have 50 foot areas. Heavy equipment would not be allowed in these areas, but commercial harvest would be allowed within reaching distance of the logging equipment (30 to 50 feet). Fire would be placed on approximately 990 acres within RHCAs.

Under Alternative 2, shade would increase over the next 5-10 years due to higher vigor of existing (and currently proposed planted) hardwoods once some of the conifer canopy and understory is removed. Increased shade from the hardwoods would lead to lower temperatures in streams which is a critical element fish need for survival during low flow periods when air temperatures increase in the summer months. Prescribed fire in RHCAs would rejuvenate riparian plant species composition. Fire would move in and out of the riparian areas, removing vegetation in a mosaic pattern. This would accelerate the improvement of riparian plant species. These activities would contribute to meeting Riparian Management Objectives (RMOs).

Residual slash and the unharvested areas are expected to filter loosened sediment before it reaches the streams. Sediment transport as a result of implementing fuels projects would be filtered through vegetation along the streambanks and throughout the RHCAs during overland flows due to the mosaic fire patterns in the area and the required 100-foot no-ignition buffer strip. Prescribed burning would be implemented over approximately 10 years and in different seasons resulting in reduced potential for sedimentation due to there being less exposed soil at one time. Additionally, there are minimal anticipated effects on runoff under Alternative 2 because of the low potential for soil impact due to the logging methods, the soil type in most areas and the relatively flat terraces along the streams that would be harvested. The Project Design Criteria and Mitigations Activities in RHCAs for Silvicultural Activities section p. 20-21 outlines the design criteria that have been developed to help avoid adverse impacts to inland native fish while performing silvicultural treatments.

Alternative 2 does the best job of reducing the overstocked conditions of RHCAs and for providing reestablishment of hardwood species because more acres would be treated than Alternative 3. Prescribed fire and associated harvest and precommercial thinning would reduce fire hazard and the potential for severe wildfire within the RHCAs and reduce competition for resources between hardwoods and conifers. Without treatment, shade would be reduced in a stand replacement fire and could take over 15 to 20 years to recover. Additionally, under alternative 2, with more available resources (e.g. sunlight, water, and nutrients) existing and planted hardwoods would be able to reestablish and expand along the stream corridors, thus increasing shade and bank stability and leading to a reduction in water temperatures.

There was a concern that activities within RHCAs might lead to decreased water quality due to sedimentation to the stream and reduction in riparian shade, as well as decreased soil productivity. Alternative 3 was developed in response to these concerns. However, many Riparian Habitat Conservation Areas (RHCAs) in the project area currently have conifer encroachment. High stocking of conifers in RHCAs can lead to replacement of aspen and other deciduous broadleaf vegetation, shrubs and ground vegetation. Conifers don't provide the same habitat characteristics as these other types of vegetation in riparian systems; loss of riparian vegetation to conifers can have negative effects on water quality in affected streams by reducing shade and decreasing bank stability. Alternative 2 is intended to move habitat conditions in the RHCAs toward their natural range of variability by reducing basal area and maintaining or improving habitat for shade-producing species. The interdisciplinary team designed implementation criteria and mitigations that would not reduce shade in the primary shade zone, and would implement no-equipment buffer strips while still providing for adequate treatment that would reduce stocking levels and encourage hardwood expansion in the riparian areas. These project design criteria will be applied to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives (RMOs). Silvicultural practices were designed to be applied in a manner that does not retard attainment of RMOs and that avoids adverse effects on listed fish. These design criteria are listed in the FEIS pp. 13-14 and pp. 21-24. As a result, even though Alternative 2 was designed to add extra protection to riparian dependent resources, I find that Alternative 2's design, minimizes short-term risk to acceptable levels while improving longer term objectives better than Alternative 3

Fuels

The Final EIS describes a need to reduce the amount of fuels to achieve and/or maintain low intensity fire conditions. I carefully considered this need in deciding what activities to undertake.

Fire exclusion over the last 90-100 years has reduced the acres burned in naturally occurring, low-intensity fires. Frequent, low-intensity fires removed both surface and ladder fuels resulting in more open forest stands than what occur today. When fire is kept out of forest stands, both surface and ladder fuels increase and stands become denser, which increases the likelihood of high-intensity wildfire. As a result of fire exclusion, the amount of fuel loadings and the density of forest stands have increased. More of the Eastern Ochoco Mountains are covered by dense stands of small trees than were historically, and there are fewer large fire-adapted pines. The risk of crown fire in these stands is high. In the Upper Beaver project area, open ponderosa pine-dominated forests were maintained by frequent, low-intensity surface fire. Stands that were thinned and burned in the 1980s and 1990s are in need of thinning and burning to maintain low surface fuels and ladder fuels, or the risk of crown fire will increase.

Condition Class describes changes in stand conditions and fire effects caused by fire exclusion. The three Condition Classes are generally equivalent to low, moderate and high departure from the Historic Range of Variability (HRV). The Historic Range of Variability is the amount of change that could have happened in an ecosystem. HRV describes historic patterns and

abundance of vegetation using pre-European settlement conditions as a reference point. Some of the characteristics of the 3 Condition Classes are:

CHARACTERISTICS OF CONDITION CLASSES FOR FIRE REGIME I

Condition Class I	Condition Class 2	**Condition Class 3**
• Low intensity fire has occured within 0-15 years • Fuel models 2,8,9 • Flame lengths 2-4 feet • non-lethal fire effects • ladder fuels scattered, clumpy • crown base heights > 6ft • crown fire potential low • light smoke, short duration • canopy closure <55%	• No fire has occurred for 15-35 years • Fuel models 2,6,9,10,11 • Flame lengths 4 to 8 ft • mixed fire effects (between 20% and 80% mortality to overstory) • ladder fuels filling in understory • moderate to high crown fire canopy closure 55% to 70%	• No fire has occurred for 35+ years • Fuel models 6,10,11,12,13 • Flame lengths over 8 ft • lethal fire effects • ladder fuels abundant • crown fire potential is high • heavy long term smoke from complete combustion • tree growth is reduced • tree mortality increases

Changes in Condition Class would result from reductions in surface fuels, ladder fuels and stand density. Alternative 2 would reduce the potential for high intensity fire by 1) reducing surface fuels, which would shorten the flame lengths of surface fires, 2) by increasing crown base heights, the distance from the ground to the base of the canopy, requiring longer flame lengths to initiate tree torching, and 3) by decreasing crown density, making it harder for fire to travel from tree to tree. In the Upper Beaver project, stands in which prescribed fire alone will be used to reduce surface fuels and seedlings and saplings are in Condition Class 1. Stands in which noncommercial thinning of trees under 9" dbh is prescribed are in Condition Class 2. Stands in which commercial thinning of trees between 9" and 21" dbh is prescribed are in Condition Class 2 and 3. Also, the Wolf Ridge and Summit Trail parts of the project are in Condition Class 3.

Based on these conditions, I concluded that reducing fire risk is an appropriate course of action. Implementing any of the action alternatives will reduce this risk. Alternative 2 reduces the risk on the largest number of acres, at 11,761 acres, as opposed to Alternative 3 at 11,378 acres. Commercial harvest, noncommercial thinning, and prescribed fire activities work in concert to reduce stand densities and decrease susceptibility to high-intensity wildfire. Both commercial and noncommercial thinning are species specific and will move species composition toward fire-

tolerant species such as ponderosa pine and western larch. Prescribed fire treatments, both natural fuels and activity fuels underburning, reduce the amount of fuel loading.

Forest Wood Products and Seasonal Jobs

The Final EIS describes a need to provide wood products to contribute to the health of the local and regional economies (Forest Plan, pp. 4-31 to 4-32) consistent with Management Area and Forest-wide standards and guidelines and to provide opportunities for employment and income.

In deciding what activities to undertake to meet this need, I considered whether the selected alternative would provide economic benefits. Providing economic benefits to the local and regional communities is a specific purpose identified within the Forest Plan. These benefits are in the form of timber products and the jobs they create as well as employment from other activities. The Final EIS (Table 3-82, p. 207) includes an analysis of the jobs which would be created or maintained by each alternative.

Alternative 2 harvests the most timber volume and includes the most activities which would generate employment opportunities. This alternative is estimated to provide 4 million board feet of timber volume and create or maintain approximately 46 jobs. Alternative 3 provides 3.3 million board and approximately 37 jobs. Additionally, both action alternatives could result in an additional 1-3 million board feet due to biomass removal (i.e. thinning and slash removal). Alternative 1 would not provide either timber products or timber-related jobs.

I believe Alternative 2 provides a reasonable balance between achieving resource objectives and contributing economic benefits to communities.

Significant Issue

Several issues were identified during the analysis process. These issues were utilized to develop the alternative to the proposed action. One of the issues was an important consideration in making my decision: Effects of vegetation treatments within Riparian Habitat Conservation Areas (RHCAs). The other issues were not central considerations in making my decision because they were resolved through project design, no treatment, mitigation, or forestwide standards and guidelines. These issues were: Goshawk Nest Stands; Migratory and Sensitive Land Birds; Connective Corridors; and Soil Productivity. The Effects in RHCAs issue focuses on water quality.

Effects of Vegetation Treatments Within RHCAs

There was a concern that activities within RHCAs might lead to decreased water quality due to sedimentation to the stream and reduction in riparian shade, as well as decreased soil productivity. Both alternatives 1 and 3 provided analysis that included no commercial harvest in RHCAs.

Other Alternatives Considered

In addition to the selected alternative, I considered two other alternatives in detail, which are discussed below. A more detailed comparison of these alternatives can be found in the Final EIS on pages 12-19, and my rational for not selecting them is contained in the Decision Rational section.

Alternative 1 - No Action

This alternative assumes no implementation of any elements of the proposed action or the other action alternative. The no action alternative represents making no attempt to actively respond to the purpose of and need for action or the issues raised during scoping for this project. For example, there would be no actions to modify existing vegetation or related fuels and habitat conditions in the project area. Actions such as ongoing Forest protection efforts and recurring road maintenance on system roads would continue as directed by the Forest Plan.

Alternative 3

Alternative 3 was developed to respond to the Key Issue, which relates to effects to water quality from conifer thinning in RHCAs (see Chapter 1). Alternative 3 responds to this concern by reducing the amount of proposed treatments within RHCAs by 206 acres of commercial thinning and 47 acres of precommercial thinning and prescribed burning. Activities in RHCAs would be conducted as displayed in the FEIS Figures 2-3 and 2-4 and summarized in Tables 2-4 and 2-5. Appendix 4, Maps 4a and 4b of the FEIS describes activities proposed in RHCAs under Alternative 3. A complete description of Alternative 3 is contained in the Final EIS on pages 17-19 and 51-54.

Alternatives Considered But Eliminated From Detailed Study

Based on public comment, a "no commercial harvest" or "restoration only" alternative was considered for the Upper Beaver Vegetation Management project. A "no commercial harvest" alternative would remove trees up to 9 inches in diameter and would not construct any new roads. Such an alternative has been considered during several previous environmental analyses on the Ochoco National Forest (see West Maury Fuels and Vegetation Management EIS and Spears Vegetation Management EIS for examples). Previous analyses have determined that the "no commercial harvest" alternative would do little to increase the amount of LOS stands within the project area, and would not accelerate the restoration of seral structures toward HRV because the level of treatment would not maintain a sufficient amount of open, single-stratum stands. Treated stands would return to dense, stagnated conditions sooner than under alternatives that include commercial harvest. This alternative also would do little to increase broadleaf trees and shrubs. This alternative would not produce forest wood products and the jobs associated with commercial harvest. Small tree thinning by itself would not move the project area towards the desired condition and would not meet the Purpose and Need of the project.

Public Involvement

As described in the background discussion, the need for this action arose during the Upper Beaver Creek watershed analysis. A proposal to improve the vegetative condition and restore plant communities towards a range of historic conditions was provided to the public and other agencies for comment during scoping. A scoping letter was mailed to approximately 91 interested parties, including adjacent property owners on April 15, 2008. After determining that an environmental impact statement would be prepared, a Notice of Intent (NOI) was published in the *Federal Register* on April 15, 2008. The NOI asked for public comment on the proposal through May 16, 2008 (FR Vol. 73, No. 73).

Using the comments from the public and other agencies (Final EIS, pp. 15-17), the interdisciplinary team identified several issues regarding the potential effects of the proposed action. Comments received during the scoping process both internal and external were used to help define issues, develop alternatives and mitigation measures, and analyze effects. Five issues identified during scoping and through the Notice of Intent included: 1) Removal of trees would cause changes to connectivity corridors; 2) Proposed activities could cause changes to goshawk nest stands; 3) Proposed activities in Riparian Habitat Conservation Areas could increase sediment and cause a decline in water quality. Commercial harvest and noncommercial thinning could also cause a reduction in shade on streams and cause an increase in stream temperatures; 4) Equipment use during harvest activities and connected actions could change soil productivity; and 5) Prescribed fire treatments would cause changes to habitat for migratory and sensitive land birds. These issues are described in more detail in Chapter 1 of the Final EIS (pp. 9-11).

A 45-day comment period was held after the Draft EIS was completed. The comment period began on September 4, 2009, and closed on October 19, 2009. Thirteen comment letters were received during the comment period and one letter was received after the close of the comment period. Again, the main issues of concern related to water quality and fish habitat. An overriding theme in several comments related to effects to goshawk habitat and the construction of temporary roads. Other wildlife concerns related to connectivity corridors, elk security habitat, and management indicator species.

Comments related to the NEPA process, range of alternatives, no commercial harvest activities, noxious weed spread, cumulative effects (esp. related to livestock grazing), and water quality were also received.

The Response to Comments Appendix (Appendix 5) identifies a variety of comments, including all substantive comments, and provides a response. Every comment was read and considered. Those considered substantive were addressed in Appendix 5.

Forest Plan Consistency

Federal regulations (36 CFR 219.10(e)) require that permits, contracts, cooperative agreements, and other activities carried out on the Ochoco National Forest be consistent with the Ochoco National Forest Land and Resource Management Plan, as amended (Forest Plan). Accordingly, I have reviewed my decision against Forest Plan direction.

While I believe Alternative 2 to be consistent with long-term management objectives as discussed in the Forest Plan, as amended, there is one aspect of Alternative 2 that is inconsistent with existing direction. A Forest Plan amendment would be needed to implement Alternative 2. The amendment is described below.

Amendment

Implementation of Alternative 2 would require a site-specific Forest Plan amendment. The Forest Plan (p. 4-251) states that vegetative management (except livestock use) will not be allowed within MA-F6 Old Growth, until further research is available on the needs of the dependent species. Alternative 2 includes commercial thinning, precommercial thinning, hand piling, and underburning in the Beaverdam, Bear, and Sugar Creek OGMAs. The Sugar Creek OGMA would be the only OGMA receiving commercial harvest treatments. These activities are proposed to improve the longevity of large ponderosa pine on south and west facing slopes. The activities are consistent with the emphasis for the OGMA, which is to provide habitat for wildlife species dependent on old growth stands. A Forest Plan amendment is needed because the activities are not consistent with the standard and guideline that indicates vegetative management is not allowed.

This plan amendment is being made using procedures from the 1982 planning rule. Use of these procedures is allowed under 36 CFR 219.35(b) of the 2000 planning rule and a 2001 interpretive rule. (See 65 FR (Federal Register) 67514 (November 9, 2000) and 66 FR 1864 (January 10, 2001)). In addition I find this is to be a non-significant forest plan amendment. I base this in part on the criteria found in the Forest Service Planning Handbook, 1900 series.

Timing – The Forest Plan has been in effect since 1989. This amendment is occurring during the second decade of the plan period and is less likely to be significant. The proposed activities are expected to be implemented within the next 5-7 years.

Location and Size – The project area contains three OGMAs. Alternative 2 includes activities on 557 acres out of 814 within OGMAs; commercial thinning would take place on 66 acres. The proposed activities would maintain existing large trees.

Goals, Objectives, and Outputs – There would be no change in the long-term relationships between the levels of goods and services projected by the Forest Plan Final EIS and the impacts of implementing any of the action alternatives because of the low number of acres being treated and the objectives of maintaining large trees.

Management Prescription – The amendment applies only to this project and would not apply to future decisions. The amendment does not alter the desired future condition of the land or resources or the anticipated goods and services to be produced. Only a small acreage would be treated and options for future management would be maintained.

In all other respects, I find this decision to be consistent with the Forest Plan, as amended, and with the requirements of the National Forest Management Act. The selected alternative is consistent with the seven management requirements listed in 36 CFR 219.27.

1. The design criteria and resource protection measures in Chapter 2 (Final EIS, pp. 20-30) include measures for resource protection.

2. Vegetative manipulation has been proposed to achieve multiple resource goals and move vegetative conditions toward the historic range of variability.

3. Timber harvest will only occur on lands suitable for timber production.

4. No even-aged management practices are proposed.

5. Special attention has been given to riparian areas. Alternative 2 includes activities within RHCAs. These activities are designed to maintain or improve existing shade conditions by thinning conifers to promote deciduous trees and shrubs, to promote development of large-size trees by reducing competition, and to enhance long-term recruitment of large wood within riparian areas. (Final EIS, pp. 13-15, 22-24, and 94-127).

6. Alternative development considered and design criteria and resource protection measures include measures to protect, enhance, or minimize effects to soil and water resources. Water yield was determined to be a key issue and the effects on water yield were carefully considered. Several of the modifications to Alternative 2 were to reduce potential effects to water resources (see Appendix 1).

7. Management prescriptions have been designed to enhance the diversity of plant communities. Thinning and underburning in the upland vegetation have been designed to maintain and increase fire-tolerant species such as ponderosa pine and larch. Thinning in aspen stands will increase diversity in riparian areas. Increasing diversity in the vegetation will also contribute to increased diversity of animal communities.

Findings Required by Other Laws and Regulations

In reviewing the Final EIS and the activities included in Alternative 2, I have concluded that my decision is consistent with the following laws, requirements, and policies.

National Environmental Policy Act: NEPA establishes the format and content requirements of environmental analysis and documentation. The entire process of preparing this environmental impact statement was undertaken to comply with NEPA.

National Historic Preservation Act. A cultural resource inventory has been completed for the project area. On December 15, 2009, the Ochoco National Forest completed the "Project Review for Heritage Resources under the Terms of the 2004 Programmatic Agreement" (PA) with the Oregon State Historic Preservation Officer (SHPO). The undertaking meets the criteria in the PA for a "No Historic Properties Affected" determination.

Endangered Species Act. Biological Evaluations (BEs) have been prepared to document possible effects of proposed activities on threatened and endangered species in the project area. There are no endangered species known or suspected to occur on the Ochoco National Forest. Threatened species that are known or suspected to occur on the Ochoco National Forest include bull trout, mid-Columbia River steelhead, northern bald eagle, and Canada lynx. Potential effects to these species were analyzed and the analysis is summarized in the BEs (January 29, 2010 Wildlife BE and December 2008 BE for Aquatic Species) and in the Final EIS (pp. 115-181). The analysis documents that there would be no effect to bull trout or mid-Columbia River steelhead. The project may affect, but is not likely to adversely affect northern bald eagle and Canada lynx. Consultation with the U.S. Fish and Wildlife Service has been completed.

Clean Air Act. The selected alternative is designed to be consistent with the Clean Air Act. The Oregon Department of Environmental Quality (DEQ) is responsible for assuring compliance with the Clean Air Act. In 1994, the Forest Service, in cooperation with the DEQ, the Oregon Department of Forestry and the Bureau of Land Management, signed a Memorandum of Understanding (MOU) to establish a framework for implementing an air quality program in Northeast Oregon. The MOU includes a prescribed fire emission limit of 15,000 tons of PM 10 per year for the national forests of the Blue Mountains (Malheur, Ochoco, Umatilla, and Wallowa-Whitman). (PM 10 are particulate matter that measure 10 microns in diameter or less, and are small enough to enter the human respiratory system.) All prescribed burning on these forests is coordinated with the DEQ through the State of Oregon smoke management program. All prescribed fire treatments authorized by this Record of Decision would be conducted in compliance with the State of Oregon Smoke Management System and would meet smoke management objectives for total emissions.

Clean Water Act. The selected alternative will comply with the Clean Water Act. This Act establishes a non-degradation policy for all federally proposed projects. The selected alternative meets anti-degradation standards through planning, application, and monitoring of Best Management Practices (BMPs). The Environmental Protection Agency has certified the Oregon Forest Practices Act and regulations as BMPs. The State of Oregon has compared Forest Service practices with the State practices and concluded that Forest Service practices meet or exceed State requirements. Site-specific BMPs have been designed to protect beneficial uses. Chapter 2 of the Final EIS lists the design criteria and resource protection measures that are common to all action alternatives. A number of these measures are BMPs. Appendix D of the Final EIS describes the application of water quality BMPs and lists the BMPs that will be utilized to implement the activities in Alternative 2 modified.

The Final EIS documents the analysis of effects to streams listed on the 2004/2006 state 303(d) list of Water Quality Limited Water Bodies for summer water temperature. These streams are: Beaverdam, Powell, Rager, Wolf, and Sugar Creeks. Implementation of the selected activities should not result in any measurable increase in water temperatures in any fish-bearing or non-fish bearing perennial stream in the project area. Commercial timber harvest and noncommercial thinning activities were designed so that they do not reduce shade in the primary shade zone. In the long term, health and resiliency of the primary shade zone would be improved by decreasing stand density. There is a potential to increase water temperature in intermittent non-fish bearing streams (Class IV) when they are flowing, but this should not result in a violation of

state water quality standards because these streams go dry before peak water temperatures occur in the project area. There would be no measurable temperature change on Class I-III streams, including 303(d) listed streams for any of the action alternatives.

Environmentally Preferred Alternative

I find that Alternative 2, the preferred alternative in the DEIS is the environmentally preferred alternative because it best meets the purpose and need for action while minimizing the risk to riparian dependent resources.

Implementation

Implementation Date

If no appeals are filed within the 45-day time period, implementation of this decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of disposition of the last appeal.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR 215. Individuals or organizations who submitted substantive comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Any appeal must be filed (regular mail, fax, e-mail, hand-delivery, or express delivery) with the Regional Forester, USDA Forest Service, Pacific Northwest Region, ATTN: 1570 Appeals, P.O. Box 3623, 333 SW First Avenue, Portland, Oregon 97208-3623. Appeals submitted via fax should be sent to (503) 808-2255. Appeals can be filed electronically at: *appeals-pacificnorthwest-regional-office@fs.fed.us.*

The office hours for those submitting hand-delivered appeals are 8:00 am - 4:30 pm Monday through Friday, excluding holidays.

Appeals, including attachments, must be filed within 45 days from the publication date of the legal notice announcing this decision in the *The Bulletin* newspaper, Bend, Oregon. Attachments received after the 45-day appeal period will not be considered. The publication date in the *The Bulletin* is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Electronic appeals must be submitted as part of the actual e-mail message, or as an attachment in plain text (.txt), Microsoft Word (.doc), rich text format (.rtf), or portable document format (.pdf). E-mails submitted to e-mail addresses other than the one listed above, or in formats other

than those listed, or containing viruses, will be rejected. It is the responsibility of the appellant to confirm receipt of appeals submitted by electronic mail.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Janis Bouma Project Team Leader, Paulina Ranger District, at 7803 Beaver Creek Road, Paulina, Oregon 97751 or (541) 477-6902.

Jeff Walter

JEFF WALTER
Forest Supervisor
Ochoco National Forest

2-16-10

DATE